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on October 6, 2004

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October 6, 2004
Date of
Signature

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Customer Number: 000201

Attorney Docket No.: J6650(C)

Appellant: Fan et al..

Serial No.: 10/001,558

Filed: October 24, 2001

FOR: PERSONAL CLEANSING COMPOSITIONS THAT CONTAIN SURFACTANTS,
CO-SURFACTANTS, WATER INSOLUBLE SOLIDS AND/OR LIQUIDS AND
CATIONIC CONDITIONING POLYMERS

Group: 1617

Examiner: Shaojia A. Jiang

Edgewater, New Jersey 07020

October 6, 2004

APPEAL BRIEF

Commissioner For Patents
P.O. Box. 1450
Alexandria, VA 22313-1450

Sir:

There are enclosed herewith is an Appeal Brief for Appellants. Please charge \$330.00 to our Deposit Acct. No. 120-1155. Please credit any overpayment or charge any additional fees to Deposit Acct. No. 12-1155.

Three copies of this letter are enclosed.

Respectfully submitted,

Karen E. Klumas
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KEK/sc
201-840-2332

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FOR: PERSONAL CLEANSING COMPOSITIONS THAT CONTAIN
SURFACTANTS, CO-SURFACTANTS, WATER INSOLUBLE SOLIDS
AND/OR LIQUIDS AND CATIONIC CONDITIONING POLYMERS
UNUS No.: 99-0492-HC
Group: 1617
Examiner: Shaojia A. Jiang
Edgewater, New Jersey 07020
October 6, 2004

APPEAL BRIEF

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a Brief on Appellants' Appeal from the Examiner's Final Rejection concerning the above-identified application.

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Customer Number: 000201
Attorney Docket No.: J6650(C)
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AND/OR LIQUIDS AND CATIONIC CONDITIONING POLYMERS
UNUS No.: 99-0492-HC

Group: 1617
Examiner: Shaojia A. Jiang
Edgewater, New Jersey 07020
October 5, 2004

APPEAL BRIEF

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I. REAL PARTY IN INTEREST

Unilever Home & Personal Care USA, Division of Conopco, Inc. is the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings known to appellants, the appellants' legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

III. STATUS OF CLAIMS

Claims 1-7, 13-17, 19-22, and 26-27 are rejected and on Appeal. Claims 8-12 and 18 have been canceled. Claims 23-25 have been withdrawn.

V. STATUS OF AMENDMENTS

The Amendment dated April 27, 2004, submitted subsequent to final rejection, has not been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The claims on appeal are summarized as follows:

Independent claim 1 identifies an aqueous rinse-off cleansing and conditioning composition that comprises: about 2 to about 40% by weight of an anionic surfactant, about 0.1 to about 20% by weight of a co-surfactant which is an ethoxylated cocomonoethanolamide with a specified EO content (about 2 to about 12), about 0.001 to about 10% by weight of a cationic polymer, and about 0.01 to about 30% by weight of water insoluble components with an average average particle size of less than 2 μ m. See the specification at page 6, lines 4 to 14; page 8, lines 23 to 30; and page 21, lines 27 to 28.

Independent claim 2 identifies an aqueous rinse-off cleansing and conditioning composition comprising the same components in the same amounts as in claim 1 (except that the average particle size of the water insoluble components is described as less than about 2 μ m), with the additional requirement that the anionic surfactant, ethoxylated cocomonoethanolamide and cationic polymer in a premixture with water at a ratio of premixture:water at about 1:10 forms a turbid mixture. See the specification at page 6, lines 4 to 14; page 5, lines 5 to 9; page 8, lines 23 to 30; and page 21, lines 27 to 28.

Claim 3, dependent on claim 1, identifies a group of materials from which the anionic surfactant is selected. See page 7, lines 6 to 9; and page 20 lines 3 to 7.

Claim 4, dependent on claim 1, specifies that the composition further comprises an amphoteric surfactant and identifies a group of materials from which the amphoteric surfactant is selected. See page 7, line 30 to page 8, line 2; and page 20, lines 10 to 14.

Claim 5, dependent on claim 4, identifies the amphoteric surfactant as acyl taurate or acyl glutamate, and further specifies the number of carbon atoms in the acyl groups (about 8 to 18). See page 8, lines 2 to 3; and page 20, lines 17 to 19.

Claim 6, dependent on claim 4, identifies the amphoteric surfactant as a selected alkyl betaine (cocodimethyl sulfopropyl betaine, lauryl betaine or mixtures thereof). See page 8, lines 3 to 4; and page 20, lines 22 to 24.

Claim 7, dependent on claim 4, identifies the amphoteric surfactant as sodium amphopropionate. See page 8, lines 3 to 5; and page 20, lines 26 to 27.

Claim 13, dependent on claim 1, specifies the EO content of the ethoxylated cocomonoethanolamide as about 3 to about 6. See page 8, lines 23 to 26; and page 22, lines 1 to 2.

Claim 14, dependent on claim 1, specifies the materials from which the cationic polymer is selected. See page 9, lines 5 to 12; and page 22, lines 5 to 13.

Claim 15, dependent on claim 1, specifies the cationic polymer as guar hydroxypropyl trimethyl ammonium chloride. See page 9, lines 13 to 14; and page 22, lines 16 to 17.

Claim 16, dependent on claim 1, specifies the water insoluble components as an emulsion of cyclomethicone. See page 4, lines 6 to 9; page 10, lines 1 to 5; and page 22, lines 20 to 21.

Claim 17, dependent on claim 1, specifies the water insoluble components as silicone oil selected from particular siloxanes. See page 22, lines 24 to 26.

Claim 19, dependent on claim 1, specifies the water insoluble components as silicone oil having a specified average particle size (about 0.05 to about 2 μ m). See page 23, lines 3 to 5.

Claim 20, dependent on claim 1, identifies additional components that may be present. See page 12, lines 2 to 7; and page 23, lines 8 to 11.

Claim 21, dependent on claim 1, identifies the surfactant and co-surfactant as a mixture comprising ALS/AL(EO)₁S/CMEA/CM(EO)₅A. See page 7, lines 18 to 28, Formulas 14, 15 and 17 at pages 16 to 17; and page 23, lines 14 to 15.

Claim 22, dependent on claim 1, identifies the surfactant and co-surfactant as a mixture comprising ALS/AL(EO)₂S/CMEA/CM(EO)₅A. See page 7, lines 18 to 28; and page 23, lines 18 to 19.

Claim 26, dependent on claim 1, specifies the cocomonoethanolamide as having EO in an amount ranging from 2 to 6. See page 8, lines 25 to 26.

Claim 27, dependent on claim 1, specifies that the cocomonethanolamide has EO selected from 2 EO, 3.5 EO and 4.5 EO groups. See page 13, lines 5 to 22.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection to be reviewed on Appeal is the rejection of claims 1-7, 13-17, 19-22, and 26-27 under 35 U.S.C. § 103(a) over Reid et al. (U.S. Patent 5,085,857) in view of Porter et al. (*Handbook of Surfactants*, pp. 145-146, 1991).

VI. ARGUMENT

- a) Claims 1-7, 13-17, 19-22 and 26-27 are not obvious over Reid et al. in view of Porter et al.

Formulating rinse-off cleansing and conditioning compositions to promote the deposition of water insoluble components (e.g., silicone) having an average particle size of less than 2µm can be problematic, as the efficiency of deposition on hair or skin of such particles can be very poor. The Appellants have discovered that the combination of anionic surfactant, ethoxylated cocomonoethanolamide and cationic polymer significantly improves the deposition of such insoluble particles. The improvement in particle deposition provided by the subject invention is neither disclosed nor suggested by Reid et al. in view of Porter et al.

Reid et al. discloses a conditioning shampoo comprising a surfactant, a non-volatile silicone oil present as emulsified particles having an average particle size of less than 2µm, and guar hydroxypropyltrimonium chloride (a cationic polymer). Characterizing the benefits of the compositions therein described, Reid et al. states:

We have found that the combination of an aqueous emulsion of a silicone oil **with a particular type of cationic conditioning polymer in a surfactant-based shampoo composition** will impart improved conditioning benefit to the hair with none of the undesirable dulling effects or greasy build-up seen with other conditioning products, and without the need for a two-step washing and conditioning procedure. See column 1, lines 51 to 58. Emphasis added.

In Example 3 of Reid et al., conditioning performance was assessed with or without the addition of silicone (average particle size of 0.4 µm added as an emulsion) or cationic polymer (Jaguar C 13S, guar hydroxypropyltrimonium chloride) to shampoo compositions containing an anionic surfactant, and an amphoteric surfactant (cocamidopropyl betaine). The compositions which contained both silicone and cationic

polymer were shown to have better conditioning performance (as a function of ease of combining) than the compositions which (a) contained cationic polymer and no silicone or (b) contained silicone but lacked cationic polymer. In the same Example, it was also shown that in compositions containing an anionic surfactant, amphoteric surfactant, and silicone, the substitution of a cationic cellulose derivative identified as Polymer JR 400 for Jaguar C 13 S, yielded a composition that failed to provide the same degree of conditioning performance.

In short, Reid et al. linked the conditioning performance of the silicone containing compositions therein described to the presence of guar hydroxypropyltrimonium chloride; that is to say, with guar hydroxypropyltrimonium chloride, the conditioning performance of the compositions was said to be improved. Thus, while the choice of cationic polymer was disclosed to have an effect on conditioning performance, there is nothing in the citation that would lead one skilled in the art to correlate the selection of a particular co-surfactant to the silicone deposition properties of the resulting composition. Although the patent does exemplify compositions that further comprise coconut monoethanolamide (otherwise known as cocomonethanol amide or CMEA), in those compositions that contain CMEA (see Examples 4 and 5), the CMEA is not ethoxylated.¹ Further, there is no disclosure or suggestion that the incorporation of ethoxylated coconut monoethanolamide would provide any benefit whatsoever with respect to the deposition of the silicone conditioning agents.

Porter et al. is a handbook that teaches many, many different types of surfactants. That portion of Porter et al. being cited discloses that the addition of ethylene oxide to monoethanolamides "improves dispersability or solubility in water" and that foaming and wetting are "at the optimum when 3-4 moles of ethylene oxide are added." There is nothing in Porter et al. that links dispersibility or solubility to particle deposition or that

¹ In Example 4, Reid et al. compared the foam volume of compositions with (a) no silicone, (b) silicone of 0.4 μ m size, or (c) silicone of 4 μ m size. From the data provided, the patentees concluded that silicone of the larger particle size reduced foam volume, while silicone of smaller particle size did not. In Example 5, the patent compared the storage stability of compositions with average particle sizes of 0.4 μ m or 3.0 μ m.

would motivate one skilled in the art to incorporate these materials into compositions comprising silicone, anionic surfactant and cationic polymer as a means of improving silicone deposition. Such a combination is mere hindsight suggested only by the subject invention.

Appellants have shown that the substitution of ethoxylated cocomonoethanolamide for non-ethoxylated cocomonoethanolamide in a composition that comprises an anionic surfactant, a cationic polymer (for example, guar hydroxypropyl trimethylammonium chloride) and a water insoluble silicone with an average particle size of less than 2 μm , provides a significant and, given the disclosed utility of ethoxylated cocomonoethanolamide as a foaming or dispersion aid, unexpected improvement in silicone deposition. See, for example, the formulas and silicone deposition data found under Example 1 at page 13, Example 2 at page 15, Example 3 at page 16, and Example 4 at page 17.

Formula 1, which contained silicone (DC 1784, a dimethiconol emulsion from Dow Corning Inc.), cationic polymer (Jaguar C 13S, guar hydroxypropyl trimethyl ammonium chloride from Rhodia Inc.), anionic surfactant (ammonium lauryl sulfate), and **non-ethoxylated CMEA**, was found to deposit only 30 ppm of silicone on hair. By contrast, formulas 2-4, otherwise identical compositions which replaced the non-ethoxylated CMEA with a like amount of ethoxylated cocomonoethanolamide of varying degrees of ethoxylation ($\text{CM}(\text{EO})_x\text{A}$), were found to deposit between 130 and 580 ppm of silicone. Significant increases in silicone deposition are also seen when formula 5 (which contained silicone (DC 1784, a dimethiconol emulsion from Dow Corning Inc.), cationic polymer (Jaguar C 13S, guar hydroxypropyl trimethyl ammonium chloride from Rhodia Inc.), anionic surfactant (ethoxylated ammonium lauryl sulfate), and **non-ethoxylated CMEA**, is compared to **ethoxylated CMEA** formulas 6 and 7 (compare the silicone deposition of 145ppm for formula 5 with depositions of 190ppm and 400ppm for formulas 6 and 7, respectively). Replacing a portion of the CMEA with ethoxylated CMEA was also shown to significantly increase silicone deposition in compositions

containing mixtures of ammonium lauryl sulfate, ethoxylated ammonium lauryl sulfate and Jaguar C 13 S; compare formula 13 (1.8% CMEA, no ethoxylated CMEA; deposited 30 ppm silicone), with formula 14 (1.2% CMEA + 0.6% CM(EO)₅A; deposited 260 ppm silicone) and formula 15 (0.9% CMEA + 0.9% CM(EO)₅A; deposited 560 ppm silicone).² As demonstrated by the data, in cationic polymer-containing compositions, the deposition of silicone was shown to be significantly enhanced when at least a portion of the CMEA was ethoxylated.

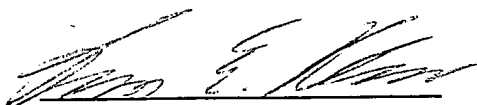
To summarize, Reid et al. discloses the use of cocomonoethanolamide as a co-surfactant, but contains no disclosure or suggestion of ethoxylating this material. Moreover, there is nothing in Reid et al. that discloses or suggests that the addition of ethoxylated cocomonoethanolamide to compositions comprising an anionic surfactant, a cationic polymer, and a water insoluble silicone with an average particle size of less than 2µm, would significantly improve silicone deposition. Porter et al. discloses that ethoxylated cocomonoethanolamide improves dispersibility and foaming; however, this secondary citation offers no indication that such materials would provide any benefit whatsoever as regards particle deposition. In short, there is nothing in either citation, alone or in combination, that discloses or suggests the unexpected improvements in particle deposition provided by the compositions described by the subject claims. Further, there is nothing in Porter et al. that would motivate one skilled in the art to substitute ethoxylated cocomonoethanolamide for non-ethoxylated

² The rejection of the pending claims was based, in part, on the contention that the data provided is not reasonably commensurate in scope with the instant claims. More particularly, it was contended that "the claims recite a co-surfactant which is an ethoxylated cocomonoethanolamide with EO ranging from 2 to about 12, whereas the data on pages 13-16 show EO of 2-5." The data not only demonstrates that ethoxylated CMEA having an EO content on the low end of the claimed range can provide significant and unexpected increases in particle deposition; it also shows that, in general, silicone deposition increases with increases in the EO content of cocomonoethanolamide. It is, therefore, submitted that the data provided is reasonably commensurate with the CMEA EO content (about 2 to about 12) of independent claims 1 and 2. It is, however, noted that claim 13 (CMEA has an EO content of about 3 to about 6), claim 21 (surfactant and co-surfactant is a mixture comprising ALS/AL(EO)₅S/CMEA/CM(EO)₅A), claim 22 (surfactant and co-surfactant is a mixture comprising ALS/AL(EO)₂S/CMEA/CM(EO)₅A), claim 26 (CMEA has EO in an amount ranging from 2 to 6), and claim 27 (ethoxylated cocomonoethanolamide has EO to an extent selected from the group consisting of 2 EO, 3.5 EO and 4.5 EO groups) all describe compositions wherein the ethoxylated cocomonoethanolamide has an EO content within or closely approximating the range exemplified by the data in the Examples (EO of 2 to 5).

cocomonoethanolamide in the compositions described by Reid et al. in order to improve particle deposition.

In view of the foregoing comments, Appellants request the Board of Patent Appeals and Interferences to reverse the Examiner's rejections.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Karen E. Klumas", written over a horizontal line.

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Registration No. 31,070
Attorney for Appellant(s)

KEK/sc
201-840-2332

VIII. CLAIMS APPENDIX

Claims on Appeal

Claim 1: An aqueous rinse-off cleansing and conditioning composition comprising:

- a) from about 2 to about 40% by weight of an anionic surfactant;
- b) from about 0.1 to about 20% by weight of a co-surfactant which is an ethoxylated cocomonoethanolamide with EO ranging from about 2 to about 12;
- c) from about 0.001 to about 10% by weight of a cationic polymer; and
- d) from about 0.01 to about 30% by weight of water insoluble components with an average particle size of less than 2 μm .

Claim 2: An aqueous rinse-off cleansing and conditioning composition comprising:

- a) from about 2 to about 40% by weight of an anionic surfactant;
- b) from about 0.1 to about 20% by weight of a co-surfactant which is an ethoxylated cocomonoethanolamide with EO ranging from about 2 to about 12;
- c) from about 0.001 to about 10% by weight of a cationic polymer; and
- d) from about 0.01 to about 30% by weight of water insoluble components with an average particle size of less than about 2 μm ;

wherein a), b) and c) in premixture with water at a ratio of premixture:water at about 1:10 forms a turbid mixture.

Claim 3: A composition according to claim 1 wherein said anionic surfactant is selected from the group consisting of the alkyl sulfates, alkyl ether sulfates, alkaryl sulfonates, alkaroyl isethionates, alkyl succinate, alkyl sulphosuccinates, N-alkoyl sarcosinates, alkyl phosphates, alkyl ether phosphates, alkyl ether carboxylates, alpha-olefin sulfonates and mixtures thereof.

Claim 4: A composition according to claim 1 further comprising an amphoteric surfactant selected from the group consisting of alkyl amine oxides, alkyl betaines, alkyl amidopropyl betaines, alkyl sulfobetaines, alkyl glycinate, alkyl carboxy glycinate, alkyl amphoteric propionates, alkyl amidopropyl hydroxysulfonates, acyl taurates, acyl glutamates, and mixtures thereof.

Claim 5: A composition according to claim 4 wherein said amphoteric surfactant is acyl taurate or acyl glutamate, and wherein said acyl groups have from about 8 to about 18 carbon atoms.

Claim 6: A composition according to claim 4 wherein said amphoteric surfactant is an alkyl betaine selected from the group consisting of cocodimethyl sulfopropyl betaine, lauryl betaine, and mixtures thereof.

Claim 7: A composition according to claim 4 wherein said amphoteric surfactant is sodium amphopropionate.

Claim 13: A composition according to claim 1 wherein the cosurfactant is an ethoxylated cocomonoethanolamide with EO ranging about 3 to about 6.

Claim 14: A composition according to claim 1 wherein the cationic conditioning polymer is selected from the group consisting of cationic cellulose derivatives; cationic starches'; copolymers of a dialkyl quaternary ammonium salt and acrylamide; quaternized polyvinylpyrrolidone; quaternized vinylpyrrolidone vinylimidazole polymers; polyglycol amide condensates; quaternized collagen polypeptides; polyethylene amines; cationized silicon polymers; cationic silicone polymers, copolymers of adipic acid and dimethylaminohydroxypropyl diethylene triamine; polyaminopolyamide and their water soluble crosslinked polymers; cationic chitin derivatives; cationic guar gums; and mixtures thereof.

Claim 15: A composition according to claim 1 wherein the cationic polymer is guar hydroxypropyl trimethyl ammonium chloride.

Claim 16: A composition according to claim 1 wherein the water insoluble components is an emulsion of cyclomethicone.

Claim 17: A composition according to claim 1 wherein the water insoluble components is a silicone oil selected from the group consisting of polyalkyl siloxanes, polyalkyl aryl siloxanes and mixtures thereof.

Claim 19: A composition according to claim 1 wherein the water insoluble components is a silicone oil that has an average particle size of from about 0.05 to about 2 μm .

Claim 20: A composition according to claim 1 which further comprises one or more components selected from the group consisting of pH adjusting agents, viscosity modifiers, talc, kaolin, suspending agents, preservatives, coloring agents, dyes, proteins, herb and plant extracts, polyols, alpha hydroxy acids and sunscreens.

Claim 21: A composition according to claim 1 wherein said surfactant and cosurfactant is a mixture comprising ALS/AL(EO)₁S/CMEA/CM(EO)₅A.

Claim 22: A composition according to claim 1 wherein said surfactant and co-surfactant is a mixture comprising ALS/AL(EO)₂S/CMEA/CM(EO)₅A.

Claim 26: A composition according to claim 1 wherein the ethoxylated cocomonoethanolamide has EO in an amount ranging from 2 to 6.

Claim 27: A composition according to claim 1 wherein the ethoxylated cocomonoethanolamide has EO to an extent selected from the group consisting of 2 EO, 3.5 EO and 4.5 EO groups.